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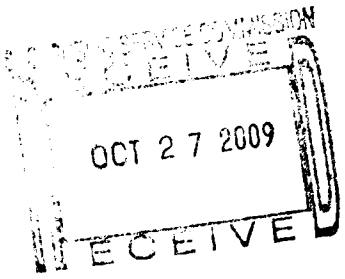
PALMETTO RURAL TELEPHONE COOPERATIVE, INC.

2009-455-C



October 22, 2009

Mr. Charles Terreni
Chief Clerk/Administrator
Public Service Commission of South Carolina
P.O. Drawer 11649
Columbia, SC 29211

Mr. Terreni:

Palmetto Rural Telephone Cooperative respectfully requests the Commission's approval to establish a depreciation rate of five years for the hardware associated with softswitch central office, switching equipment.

The contract amount for the softswitch is 361,828 dollars. Palmetto currently has 8.5% depreciation rates on central office software and request at this time to apply five year rates on central office equipment.

Attached, for your review is a research document and recommendation from our consultant engineer supporting our requested rate of depreciation for softswitch technology.

We trust that after review of our request, the Commission will grant approval. Please advise us of the final disposition of our request at the earliest possible date.

Yours truly,

Jason J. Dandridge
Chief Executive Officer

CC: C. Dukes Scott

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October 14, 2009

Jason J. Dandridge
Chief Executive Officer
Palmetto Rural Telephone Cooperative
2471 Jefferies Highway
Post Office Box Number 1577
Walterboro, SC 29488

Dear Jason,

The attached paper summarizes JSI's recommendation for the depreciation rate of the softswitch. The paper discusses the functions of the softswitch and the rational for recommending the same depreciation rate as used for general purpose computers.

Sincerely,

Valerie Wimer
Vice President – New Business Development

Palmetto Rural's Softswitch Depreciation

The merger of voice and data communications technologies has been predicted for many years. This predicted evolution is now coming to fruition and the merger of voice and data communications technologies is manifesting itself in several ways. First, voice is starting to be packetized so that it looks like data. Second, functionality traditionally only found in centralized voice equipment is becoming more distributed throughout the network emulating the distributed architecture of a data network. Third, software is becoming a much larger percentage of the voice switch investment. As this migration continues, the telecommunications equipment used to provide regulated services is increasingly using the same type hardware and software that is used to provide deregulated data and Internet services, varied only by its placement and/or purpose in the network.

In 2008, Palmetto Rural Telephone Cooperative deployed a softswitch as an alternative to their traditional voice switches to start offering the advantages of these product advancements to its customers. The motivation for implementing the softswitch is driven by reduced cost, softswitch product maturity and the reluctance to invest additional capital in a dying circuit switch technology. Although this is the best investment choice based on the voice switching products available today, softswitch products, like all telecom products, will continue to evolve to become even more cost efficient products and add more customer solutions in the future.

Ultimately, the end user interface will migrate from a dedicated DSO circuit to a packet voice utilizing Ethernet/IP protocols. The full length of the call will be packet based like data and Internet traffic. Once both voice and data calls use the same protocols, switching and transport can truly be combined to bring benefits to end users. In the mean time, the softswitch is an important transitioning technology that helps adopt existing telecom network architectures to support the situation where the majority of the end users are still served by circuit loop technologies but are starting to migrate to packet-switched technologies and services.

Network Evolution of Switching

The softswitch is the first generation of voice switches that truly marry voice and data technology and functions. Circuit switches are multipurpose vehicles, which have a centralized control of the communications path between two end users. In the data world a circuit switch is the equivalent of a mainframe computer. The mainframe, like the circuit switch, supports several user applications but each application had to fit into the specific centralized architecture of the main frame. Introducing softswitch products and technology into existing telecom network architectures migrates the telecommunications switching closer to subscribers in a way that resembles the distributed architecture and intelligence of a LAN and PC network. In the distributed softswitch architecture, each piece of equipment has a specific function; such as a gateway to other carriers, interface to end users, or to provide features to all the customers on the network. The softswitch architecture allows

equipment to be specialized to bring efficiency and allow the Telephone Company to create "best-of-breed" networks by selecting each specialized equipment type from different vendors.

A more detailed explanation of the softswitch architecture will provide a clearer view of how it has evolved from traditional circuit switch networks. As mentioned above, a circuit switch is similar to a mainframe computer. A single vendor provides a proprietary, monolithic solution that includes all of the equipment and software in a circuit switch. One vendor provides the line interface to the end user, the features are built into the overall intelligence of switch, the signaling functions are handled centrally and the trunks are an integral part of the switch. If an end user wants a change of their feature, they have to call the telephone company to make a change. This approach to switching was an improvement over analog switching but modern technology now allows more flexibility and greater choice. Softswitch architecture is just that an architecture. The components that comprise softswitch architecture can incorporate products from several vendors performing different functions.

The softswitch architecture consists of a core call controller, routers or media gateway, a feature server and line interfaces. All of these components perform software driven switching functions and as such will be considered part of the switching account.

Routers or media gateways are part of the switching architecture, which convert voice from analog into IP packets and forward them to the appropriate location in the network. Because these routers can accommodate optical interfaces they also perform functions that were traditionally considered transport. There could be a single router that performs the switching and transport functions or separate routers that use the same hardware but separate the switching and transport functions. Often the routers in this softswitch architecture utilize the same hardware as used for computer or data applications such as a Juniper M320 and ERX 1400 or Extreme 6806 routers. The same hardware could have three different functions: switching, transport or data depending on where the equipment is placed in the network and the software. The software loaded on these routers provide the instructions for switching functions of how to route the calls, provide quality of service, and perform protocol conversion, or transport functions of combining trunks on a single facility. The same router could have both voice and data software thereby creating equipment cost efficiencies. Although sharing a router for both voice and data are not yet common, it is the ultimate goal.

The call controller or call agent directs the switching activities of media gateways and feature servers. The call agent is typically provided by a softswitch vendor. The functions are similar to that of the central processor of a circuit switch. The call controller sets up and tears down the calls, interfaces with the SS7 network, and obtains information from the feature server when required. The call controller coordinates all the intelligence in the other devices that make up the total switching package.

The feature server provides the intelligence to add calling features to customer's lines. Because the feature server can now be separated from the core processing it is much more

flexible than the features on a circuit switch. Although the current voice features are built into these devices, individual telephone companies, ISP, or end users can develop their own features and control their own call routing using IP interfaces. This is in stark contrast to a circuit switch where neither the telephone company nor the customer could modify the proprietary vendor software. The feature server is also a general-purpose computer with software that provides the links to the call controller. The same hardware could be used for providing customer records or accounting functions dependent on the actual software installed.

Today's softswitches do not have analog line cards to interface to individual customers. Traditional digital loop carrier (DLC) products interface with the softswitch through a standard TR303 interface that performs the traditional line card function. The DLC vendors are evolving their products so that an Ethernet/IP interface can also used as an interface to the softswitch. Although each update is more efficient than the circuit switch, both updates matched together bring even more efficiencies. The migration to an Ethernet or IP protocol between the DLC vendor and the softswitch call controller is expected to occur over the next 1-3 years.

All of these components of the softswitch solution together perform the switching functions that were previously supplied in a circuit switch that was provided through a single vendor with proprietary software. With the softswitch architecture, the Telephone Company is able select different vendors for different components or continue to purchase all the components from a single vendor. The software interfaces are standardized so customers are able to customize features, reports, and call control.

The softswitch offers cost savings today over additions to existing circuit switches. However, the ultimate goal of a fully packetized voice network will not be realized until the external interfaces also evolve. The loop plant is still primarily circuit based. Some DLC products are packetizing voice calls close to the customer and then pass the packets directly to the switching equipment. The IXCs are not yet interfacing Telephone Companies with packet-based trunking. Even when IXCs change their interfaces it will take a few years before the entire network is transitioned to the new technology. Because the ultimate network is not yet implemented, softswitches (all components) will continue to evolve along with the other portions of the network. Once packet interfaces are available from LECs, IXCs will start to convert their trunks. Internally, DLCs will be upgraded to IP protocols. Softswitches themselves will migrate to accommodate new features and even more customer and end user control. This technology evolution and network migration is more in concert to the evolution of data networks than to traditional circuit switched networks.

Depreciation

From a technology perspective, the softswitch solution more closely resembles a computer network than a traditional circuit switch. First, several of the softswitch solution components are actually general-purpose computers. Second, the multi-vendor nature resembles a data network. Third, the software definition of the functions of the equipment

also emulates computer systems. For these reasons, the softswitch although it is treated as a switch for account categorization purposes, actually has a service life similar to a computer and therefore should be depreciated similar to general computer equipment. In addition, hardware that can service multiple functions should be treated the same from a depreciation perspective regardless of the account in which it is booked. The portions of the transport network that use standard data routers to perform transport functions should also utilize depreciation rates of general computer equipment.

The service life of all electronic equipment has decreased over the years. Constant innovation has created an environment where the next generation of equipment is less expensive and provides more functionality. Depreciation lives for Palmetto Rural general purpose computer equipment is 5 years. Many of the South Carolina Telephone companies have computer depreciation rates reflective of a service life at or below 5 years. Depreciation lives for switching equipment are also decreasing. Several South Carolina Telephone companies have switching depreciation rates less than 10 years. A depreciation life of 5 years for the softswitch and routers used for transport is appropriate considering it is a new technology that is based in part on common data hardware and will evolve quickly as more standards are finalized.